

# Anticholinergic Burden in Hospice Patients with Dementia

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## BACKGROUND

- The use of drugs with anticholinergic properties (DAP) and their questionable benefits remains prevalent in elderly patients and patients with dementia.<sup>1,2</sup> Studies have shown that:
  - In nursing homes >30% of elderly residents are prescribed 2 or more DAPs.<sup>3</sup>
  - Up to 77% of elderly patients with dementia use at least one DAP.<sup>4</sup>
- In patients  $\geq 65$  years, an Anticholinergic Cognitive Burden (ACB) score of 5 or higher is associated with severe cognitive burden, impairment with activities of daily living and decreased quality of life.<sup>5</sup>
- Higher anticholinergic burdens has been associated with increased risk for:
  - Delirium<sup>6</sup>
  - Falls<sup>7</sup>
  - Peripheral and central anticholinergic side effects<sup>1,2</sup>

## OBJECTIVES

- Evaluate the average anticholinergic burden in hospice patients with dementia.
- Characterize the use of drugs with anticholinergic properties in hospice patients with dementia.

## METHODS

### Study Design & Instruments:

- Retrospective chart review of a large, national hospice organization and their affiliated pharmacy provider

### Participants & Setting:

- Patients with a diagnosis of dementia who were admitted to a national hospice organization after January 1, 2016 and discharged by death by December 31, 2016.

### Data collection (variables)

- Age, sex, and race
- Prescribed medications
- Medications dispensed by the affiliated pharmacy provider

Study was IRB exempt

## DATA ANALYSIS

- The ACB scale was used to calculate anticholinergic burden.
- The ACB scale has been linked to adverse outcomes and is one of the most frequently validated expert based anticholinergic scales.<sup>8,9</sup>
- The ACB scale assigns each DAP a score from 1-3, with 3 having the highest anticholinergic impact.<sup>9</sup>

## RESULTS

- 1,283 patients were included in this study, 37.1% (n=476) were prescribed at least one DAP.

## RESULTS CONT'D

### Demographics (N)

- 67% female, 53% male
- Average age; 86 years old
- 70% Caucasian, 12.8% Hispanic, 14% African American, 3% Asian

Figure 1. Number DAPs Prescribed

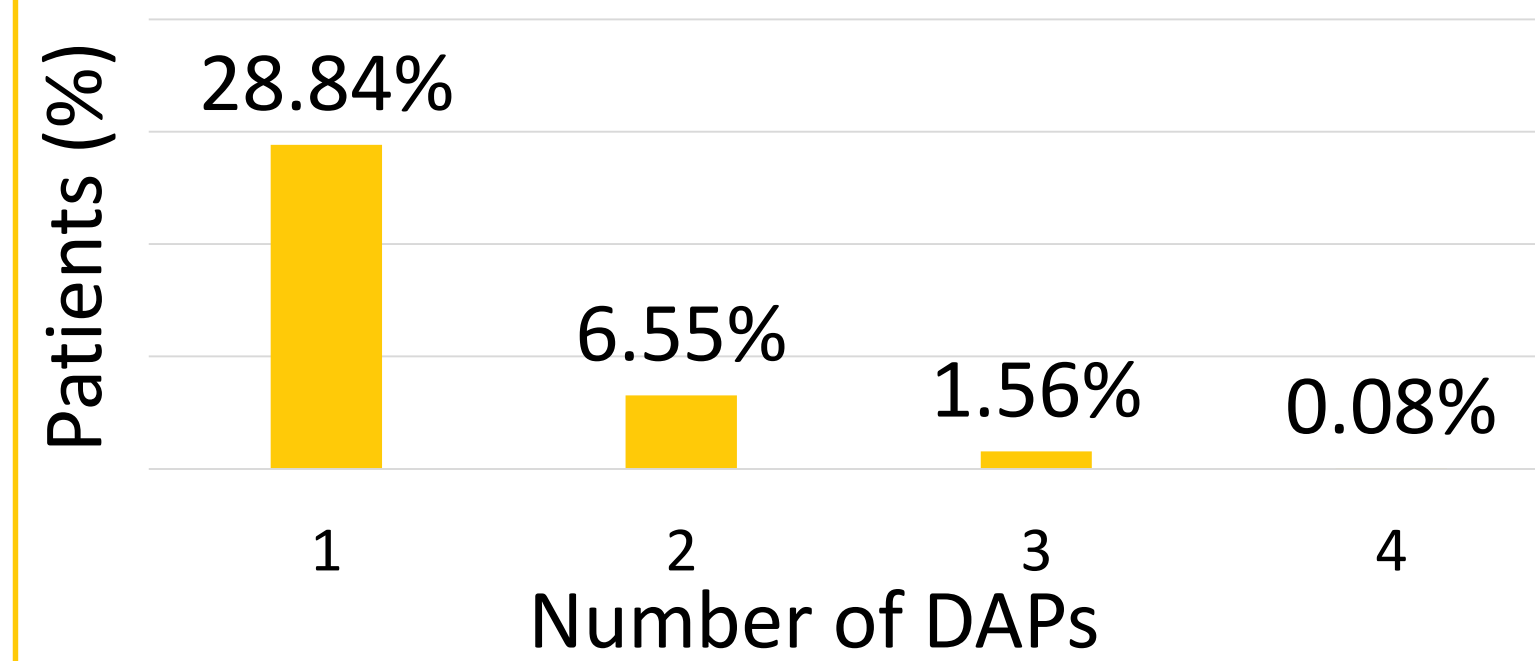


Figure 2. Most Commonly Prescribed DAPs

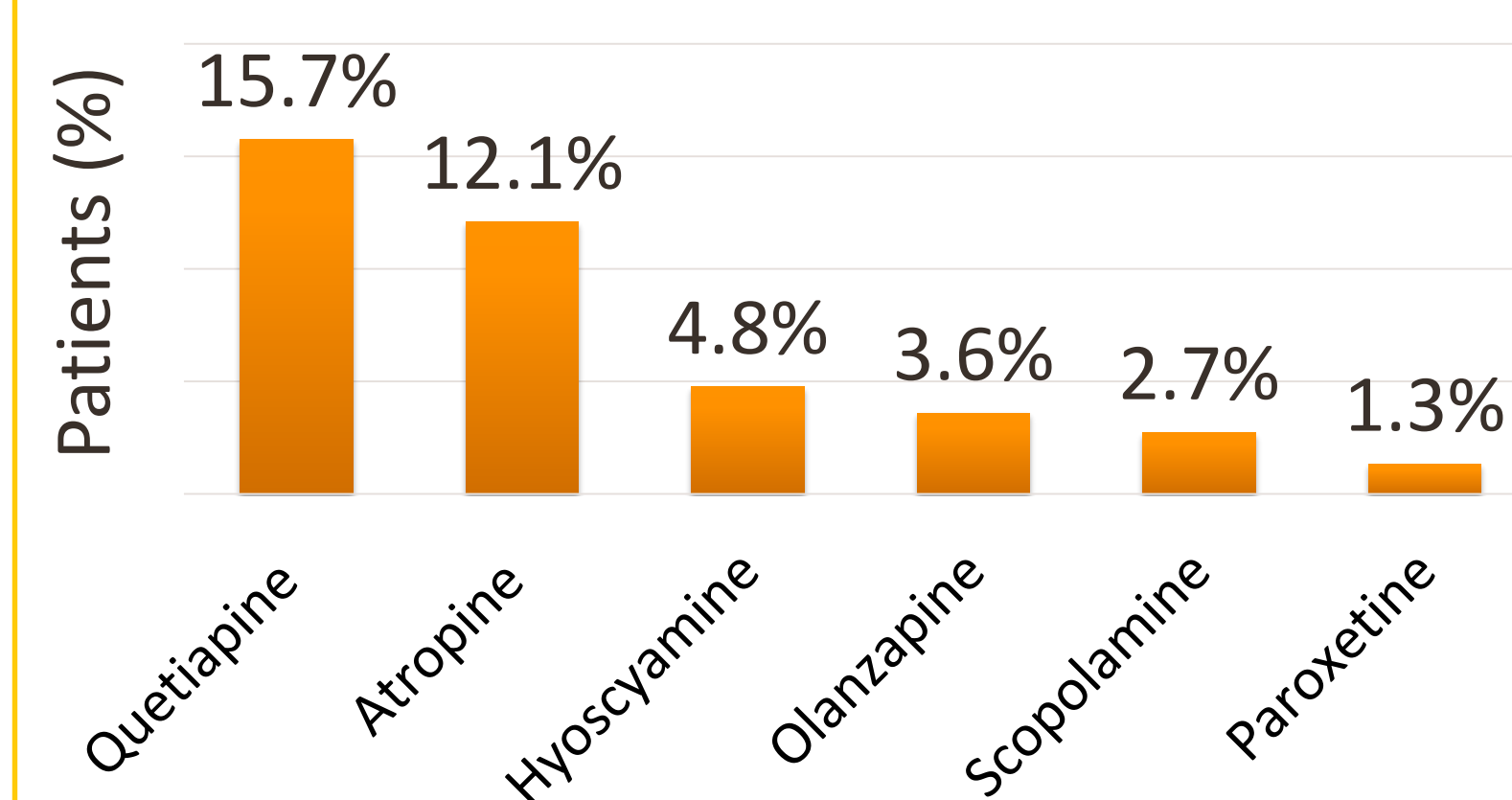
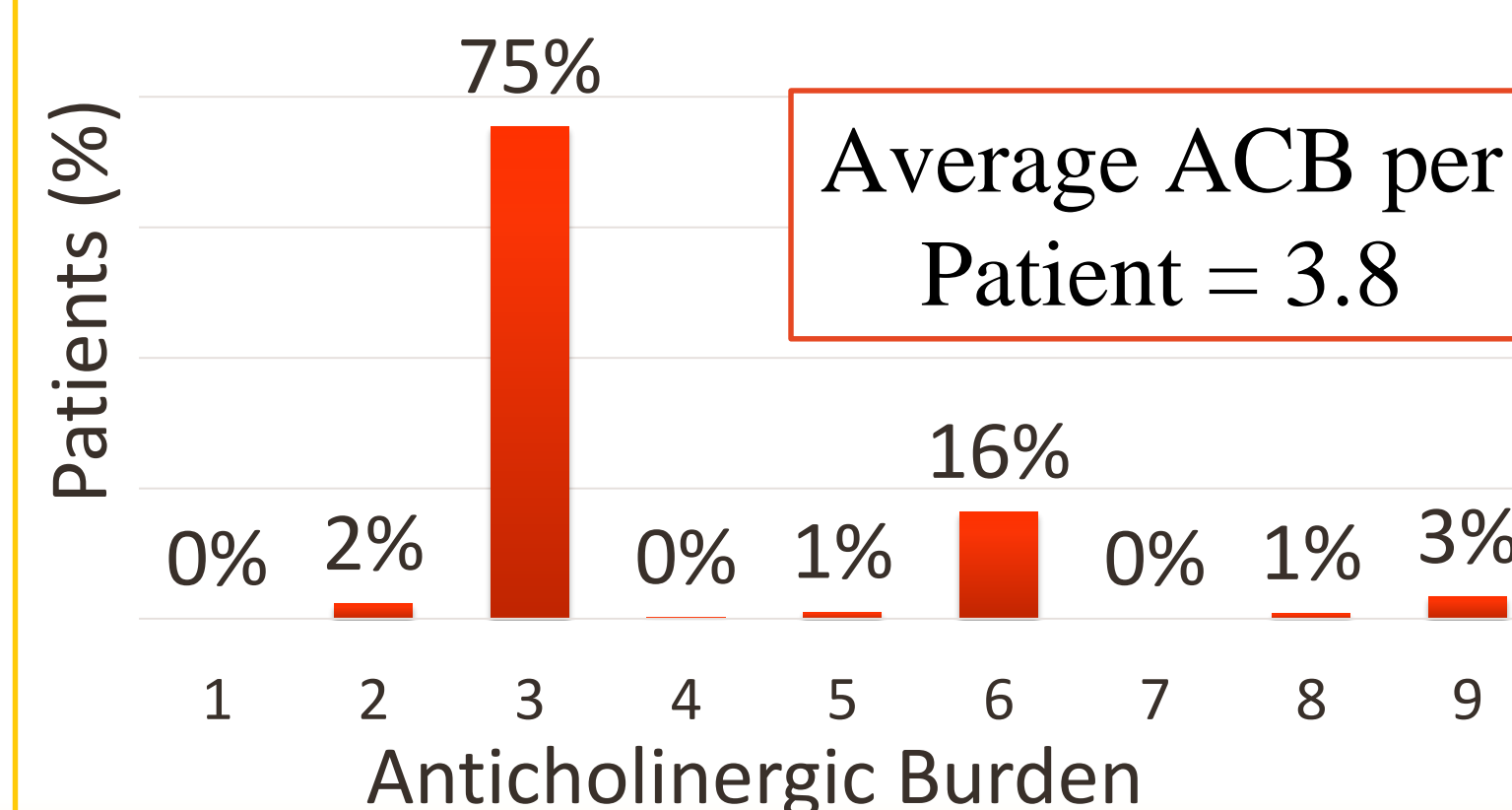


Figure 3. Anticholinergic Burden in Patients Receiving  $\geq 1$  DAP



## CONCLUSIONS

- The three most commonly prescribed DAPs were quetiapine, atropine and hyoscyamine.
- While over one-third of the population was prescribed a DAP, the majority were only prescribed one.
- Of the patients prescribed a DAP, the majority (94%) had an ACB of 3 or greater.
- Of the patients prescribed a DAP, the average anticholinergic burden was 3.8

## LIMITATIONS

- Retrospective design
- Single hospice organization
- Only prescribing information available

## IMPLICATIONS

- Illustrates the need for hospice and palliative care providers to continuously evaluate patients' medication regimens.
- Stimulate a discussion regarding the burden vs. benefit of certain DAPs in hospice patients with dementia.

## REFERENCES

1. Sura, S. D., et al (2015). JAPha, 55(3), 282-287.
2. Hochman, M. J., et al (2016). Journal of Pain and Symptom Management, 52(5), 737-743. doi:10.1016/j.jpainsymman.2016.03.020
3. Boustani M, et al. (2008) Aging Health, 4(3),311-320
4. Palmer, J.B., Albrecht, J.S., Park, Y. et al. (2015) Drugs Aging 32: 79
5. Pasina L, et al. (2013). Drugs Aging, 30:102-112
6. Zimmerman K, et al. (2014) Palliative Medicine 28(4), 335-341
7. Aizenberg D, et al. (2002) Annals of Pharmacotherapy 14(3), 307-310
8. Villalba-Moreno A, et al. (2016) Arch Gerontol Geriatr. 64, 178-180
9. Salahudeen, M. S., et al. (2015). BMC Geriatrics, 15, 31.